Neftyanoe khozyaystvo - Oil Industry 2013 N6, pages 34-35

About rheological relations for filtrating porous medium with porous skeleton of variable mass

Khramchenkov E., Khramchenkov M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Oil depletion on some of the Russian deposits necessitates to formulate models which take into account the variation of deflected mode caused by chemical interactions between components of an underground fluid and the material of the porous skeleton to perform effective enhanced oil recovery (EOR). Those models are also essential in problems of hydrogeology, such as filtration of solutions in clay layers, suffosion processes and karst processes. Usually, chemical interactions cause variation of the mass of the porous matrix. That is why it is important to perform an additional research on the influence of this variation on rheological relations, which are required to obtain closure model of deformations of a filtrating porous medium.

Keywords

Deformations, Effective stress, Porous media, Pressure, Rheology